

MANUALE ISTRUZIONI  
OPERATOR'S HANDBOOK  
MANUEL D'UTILISATION  
GEBRAUCHSANWEISUNG  
MANUAL DE INSTRUCCIONES

# COMPRESSORE A SECCO

OIL-LESS COMPRESSOR  
COMPRESSEUR SANS HUILE  
ÖLFREIE TROCKENLUFTKOMPRESSOREN  
COMPRESOR DE AIRE SECO

  
**CATTANI**  
AIR TECHNOLOGY

# OIL-LESS COMPRESSOR

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- *General running data*

Common features	
Insulation class	Class I
Functioning	Alternating service with physical-adsorption dryer
Operating temperature	from + 5 °C to + 35 °C
Motor rotating speed	at 50 Hz 1400 rpm at 60 Hz 1600 rpm

~	Alternating current	IEC 417-5032
3N~	Three-phase alternating current with neutral	IEC 335-1
⊕	Earthing (of functioning)	IEC 417-5019
PE	Protective conductor	CEI EN 60439-1
N	Neutral conductor	IEC 446
⚡	Dangerous voltage	IEC 417-5036
○	OFF (disconnection from mains)	IEC 417-5008
I	ON (connection to mains)	IEC 417-5007

The manufacturer is willing to provide suggestions, instructions, and to supply spare parts, literature, and any other useful information. The appliances are guaranteed for three years from date of sale, provided that guarantee card addressed to the manufacturer is returned to the same reporting date of sale, retailer's stamp and customer's name. Guarantee and manufacturer liability cease in case the appliances are found tampered by any kind of action performed by unfit and so unauthorised people.

Manufactured by ESAM S.P.A. - PARMA - ITALY

- *Rated electrical characteristics of compressor motors*

### 1-cylinder compressor

single-phase (1~) 50 Hz:	230 V - 0,55 kW - 3,8 A 240 V - 0,55 kW - 3,8 A
three-phase (3N~) 50 Hz:	230/400 V - 0,55 kW - 3,6/2,1 A
single-phase (1~) 60 Hz:	220 V - 0,65 kW - 4,7 A 110 V - 0,65 kW - 9 A

### 2-cylinder compressor

single-phase (1~) 50 Hz:	230 V - 1,2 kW - 7,7 A 240 V - 1,25 kW - 7,1 A
three-phase (3N~) 50 Hz:	230/400 V - 1,5 kW - 6,4/3,6 A
single-phase (1~) 60 Hz:	220 V - 1,5 kW - 9,2 A 110 V - 1,3 kW - 17,2 A

### 3-cylinder compressor

single-phase (1~) 50 Hz:	230 V - 1,5 kW - 10,2 A 240 V - 1,5 kW - 9,2 A
three-phase (3N~) 50 Hz:	230/400 V - 1,5 kW - 6,4/3,7 A

### 2-cylinder twin-head compressor

single-phase (1~) 50 Hz:	230 V - two motors 1.2 kW - 7.7 A each 240 V - two motors 1.25 kW - 7.1 A each
three-phase (3N~) 50 Hz:	230/400 V - two motors 1.5 kW - 6.4/3.6 A each
single-phase (1~) 60 Hz:	220 V - two motors - 1.5 kW - 9.2 A each 110 V - two motors - 1.3 kW - 17.2 A each

### 3-cylinder twin-head compressor

single-phase (1~) 50 Hz:	230 V - two motors 1.5 kW - 10.2 A each 240 V - two motors 1.5 kW - 9.2 A each
three-phase (3N~) 50 Hz:	230/400 V - two motors 1.5 kW - 6.4/3.7 A each

### 3-cylinder 3-head compressor

three-phase (3N~) 50Hz:	230/400 V - three motors 1.5 kW - 6.4/3.7 A each
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### 6-cylinder twin-head compressor

three-phase (3N~) 50 Hz:	400 V - two motors 4.5 kW - 16.8/9.7 A each
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### 6-cylinder 3-head compressor

three-phase (3N~) 50 Hz:	400 V - three motors 4.5 kW - 16.8/9.7 A each
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### 6-cylinder 4-head compressor

three-phase (3N~) 50 Hz:	400 V - total 18 kW - 38.8/67.2 A each
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### 3-cylinder Blok-Jet

three-phase (3N~) 50 Hz:	230/400 V - 6 motors 1.5 kW - 6.4/3.7 A each + dryer (1~) 50 Hz - 0.04 kW - 0.2 A 230/400 V - 9 motors 1.5 kW - 6.4/3.7 A each + dryer (1~) 50 Hz - 0.1 kW - 0.4/0.2 A 230/400 V - 12 motors 1.5 kW - 6.4/3.7 A each + dryer (1~) 50 Hz - 0.1 kW - 0.4/0.2 A
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- *Introduction*
- *Signals and warnings*
- *Oil-less compressor and compressed air drying systems*

- **Introduction**

The following presentation aims at illustrating the equipment and systems dealt with herein to users and engineers; it also aims at explaining operation and maintenance, as well as the dangers with the precautions required for accident prevention to users.

- **Signals and warnings**

- *Danger of electric shocks: also 230 V ~ can be lethal.*



- *High temperature.*



- *General danger sign.*



- *Compulsory direction of flow or rotation.*



Signals cannot always fully express danger warnings, therefore it is necessary that the user reads the warnings and keeps them in due consideration.

Failure to respect a danger sign or warning may harm operator or damage the equipment.

Do not remove protections, do not tamper with machines or their operation.  
In particular do not carry out any welding or operations of any kind on the tank.

In spite of our best efforts, it is possible that the hazard warnings are not exhaustive; we apologise in advance to the user for this, and ask in the meantime that users anticipate any possible sources of danger that we might not have noticed, and to advise us of these.

- **Oil-less compressor and compressed air drying systems**

**When compressed air must be clean, hygienic, sterile or medical, it is necessary to use an oil-less compressor (without oil) fitted with air filtering and drying system.**

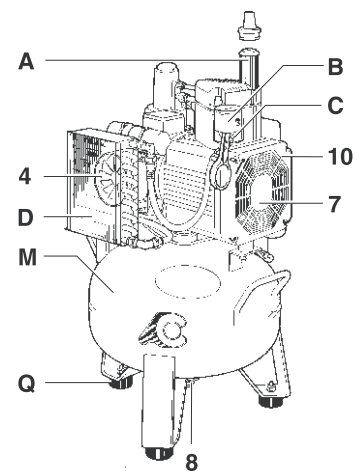
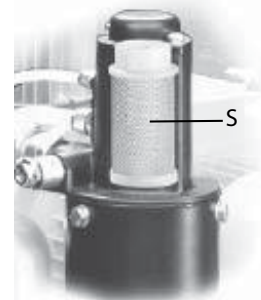
Water-oil emulsion, produced by a standard lubricated compressor, is known to be detrimental to the dentist's rotating instruments; moreover, since compressed air is used also to dry preparation before filling, even small traces of this emulsion can affect cementation.

The matter is even more serious if compressed air is used in a sterile field: a sterilizing filter can effectively treat only dry air. Oil-lubricated compressors, fitted with filtering systems to retain moisture and emulsified oil, are more difficult to use, less safe and eventually more expensive than oil-less compressors.

- *Functioning of compressor*
- *Air sterilization*

- **Functioning of compressor**

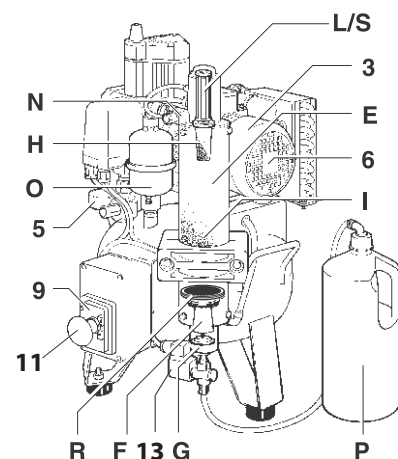
The air enters the cylinder through filter (A) and is filtered for the first time; this filter traps atmospheric dust, ensuring air cleanliness and thus protecting pistons and cylinders. Piston (B) slides inside the cylinder (C) without any lubrication; the material coating the piston is compatible with the liner, and in spite of friction both liner and piston are not subject to any significant wear. The air is compressed and warmed in the cylinder, therefore it is necessary to convey it through an air-air exchanger (D) where, at a room temperature of about +20 °C,  $\Delta T$  is stable at about +5 °C. Air temperature needs to be reduced to dew point in order to condensate the air humidity. Cooled air is then conveyed through cyclon (F) in the drying column (E) thus forming dew, which is collected in the tank (G). Afterwards the air goes through a disk filter (R), which is placed on the cyclon, then through a high-adsorption silica gel (I) compound and is completely dried. Two filters are located at the drying column air outlet: the first one is in sintered bronze (H), the second one in polyester (L). This polyester filter (L) can be replaced by Balston sterilizing filter (efficiency: 99.9999 + % for 0.01  $\mu$  m particles). Then the compressed air, dried and hygienically filtered, enters the tank (M) to be used. The tank is coated with certified alimentary resin guaranteeing good conservation of air. Whilst the tank is being filled, the air also enters a small reservoir (O) through the selector valve (N). At the end of each cycle, the dry air in the small reservoir flows back through the drying column in the opposite direction and regenerates the silica gel compound. This reversed flow of air carries all the moisture previously removed from the compressed air and drains it into the bottle (P). The whole process is automatic.



- **Air sterilization**

Filtered and dried air can be considered suitable for instruments and hygienically safe for dentistry. Air quality can be improved with a sterilizing filter (S) to be installed at the compressor air outlet.

The "SA" Balston filtering cartridge, with borosilicate glass microfiber filtering media, delivers a 99.9999+ % efficiency on 0.01  $\mu$  m particles. Balston filters can be sterilized in autoclave at +135 °C (max. 20 cycles); when used with clean air, life of the filters is about 1 year, unless operating conditions require more frequent substitutions. At this stage the air can be considered pure, if conveyed through a piping, that is not subject to thermal stress.



- *Choice of the model and distribution piping*
- *Blok-Jet and large plants*

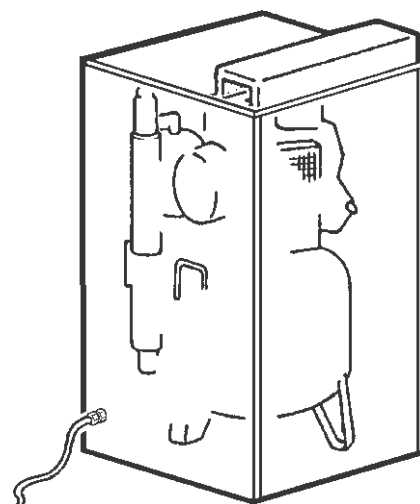
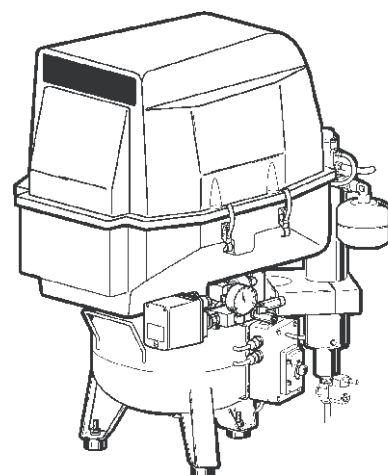
- **Choice of the model and distribution piping**

The type of oil-less compressor will be selected according to the dentist's rotating instruments and to the compressed air demand of the surgery, clinic and hospital (pag. 71-72-73-74). One cylinder of the compressor produces 60 l/min at 5 bar approximately, while the dentist instruments subject to continuous use generally do not consume more than 50/60 l/min of air at the pressure of 2/3 bar, so one cylinder can adequately supply one chair. The capacity of the compressor must be abundant, in any case, with respect to consumption, to facilitate the pauses necessary to regenerate the drying column at the end of the charging operation. The loss of pressure along the distribution line is generally due to the non use of a ring type system and to pipes with an excessively small cross section. All too often these important aspects are neglected. A ring system keeps steady the pressure adjusted on the turbine; an insulated copper distribution piping keeps air clean and avoids formation of moisture along the whole distribution line. As for the noise level, the compressor can be supplied with plastic cover or deadening box, allowing for a noise reduction of 10 and 20 dB (A), (pag. 76) respectively. **Install cabinets and protections supplied by the compressor manufacturer only; appliances fitted with other noise-reducing devices will not be covered by guarantee. Cabinets and protection supplied by the manufacturer are not merely aesthetical improvements or sound - reducing devices: they are also protections against explosions and fire, which are very rare, but that cannot be completely left out.** The pressure of the one-cylinder-compressor tank is set by the manufacturer at min. 5.5 bar and max. 7.5 bar. Regulation of two-or three-cylinder compressors ranges from 6 to 8 bar. Different regulations of the working pressure will affect the life of the compressor: the higher the max pressure the greater the effort and wear of the machine. It is prudent, in any case, to keep the maximum pressure at least 1.5 bar below the level of pressure of the safety valve, set at 10.5 bar.

- **Blok-Jet and large plants**

Blok-Jet consists of a frame housing aspiration and compression systems, or only a series of compressor heads (pag. 75).

The frame allows to place one appliance on top of another (compressors are usually placed on top of aspirators), thus saving 50% space. We can supply customized Blok-Jet units, once surgery or clinic, hospital requirements and available space are known.





## • *Suggestions for the technical room*

According to location and customer demand, Blok-Jet can be produced in different versions: open, side-panelled, fully panelled and ventilated, and also with soundproof conditioned box. Soundproofing reduces sound vibrations but it does not eliminate them. A group of heads, controlled by an electronic board which starts the heads in sequence, is more versatile and less expensive than a single appliance, particularly for large plants. Groups of 6-9-12 heads and more, (draw. page 75) allow replacing one head without switching off the plant. Sequential starting of heads allows to avoid dangerous peak amperage. Our "Large plants catalogue" where you can find a wide range of suggestions for centralized plants of different sizes, is now available on our web-site.

### • *Suggestions for the technical room*

- Aspirator and compressor must be installed in a room where access to customers, to extraneous people, and even to the surgery staff who has not been purposely trained is forbidden.

- If such a room is not available, the machines must be protected by a special box, which must not be easy to take off, so that to avoid accidental contacts, dangerous because of risk of electrical shocks, of machine running temperature, of the possibility (unlikely, but not impossible) of fire, of bursting and of contaminating air and/or liquid leakage. Install a stainless steel net protection to prevent non authorised people from getting too close to the machine. Boxes for outdoor installation with double top, internal fans and antifreeze device for cold climates are available. These boxes allow the exposure of the machine to rainwater and sunshine on balconies, terraces and gardens.



- Use boxes designed and produced by the manufacturer of the machines only. **Install a remote-lock switch, so that the operator is at safety range when switching on the machine.**

#### **We suggest to fit the technical room with:**

a smoke-detector or a temperature sensor, for fire prevention, connected to a non-stop surveillance service, for example to secretary's office. Install a suitable fire extinguisher outside the technical room and check regularly its efficiency. See that ordinary and extraordinary maintenance staff are properly protected against infected sprinkles and accidental contacts. Ensure that machines are not modified, that safety protections are not tampered with, and that no repair is made on machines in operation or connected to the mains.

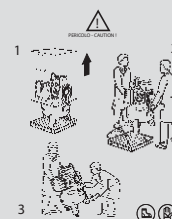
- Temperature of technical room can range from a minimum of +5 °C to +35 °C max.
- Electrical supply must be sufficient for the loads specified on machine rate plates; three phases + neutral + earth must be in place; grounding is an indispensable condition also for single-phase machines.
- Supply lines, control panels and machines must be protected against direct and indirect electrical contacts, against overloads and short-circuits, in compliance with C.E.I. 64-8 regulations concerning First Class appliances (I.E.C. correspondents available on request).
- It is advisable to protect the feeding line against extra-current.
- Protect electrical control panels and machines from accidental sprinkles.
- Provide a floor liquid-drainage connected to the sewage system.
- Keep the technical room clear of anything that is not related to the machines herein contained, taking special attention of flammable materials; make sure that there is no risk of corrosive, flammable or explosive mixes.
- Any machine installation must be carried out by a specialist, duly trained and equipped with necessary tools. The installer must refer to the appliance manual, carry out the machine final test and instruct the user on use and ordinary maintenance. The surgery staff has to be instructed preferably when the machine is brand new and not contaminated.

## • *Installation and starting*

- Before starting the machines, ensure that aspiration and compressed air distribution piping are free from any debris, as heavy debris could damage the appliances.
- Danger signals and warnings (lights and beepers) such as failing-machine or overheating warning must be removed from technical room and installed in room under frequent control.
- After finishing the installation, carry out functional and regulation tests; check the direction of rotation of motors, the mains tension, and electrical absorption.
- Make sure that periodical checks are carried out on equipments: such an inspection is not only a means to protect the surgery from forced stops, but it is also a proper way to prevent accidents.
- Our updated manuals are in our web site **www.cattani.it**. We recommend to consult them, especially for **safety up-dating**.

## • *Installation and starting*

- **Unpack the appliance following the instructions on the box.**
- **Verify that the appliance has not been damaged during transport.**
- **Do not connect damaged appliances to the mains.**
- Do not use extension leads, multiple plugs or sockets.
- Ascertain that the feeding line is adequate to feed the compressor.



- **Ascertain that the appliance (or Blok-Jet) is installed in a clean spot, far from heat sources and from depots of contaminating substances**, and that it aspirates clean air, free from dust, gases, and humidity. A system to aspirate clean air from outside is available in case the air coming from the technical room is dirty and polluted due to the presence of some other machines or deposits of dangerous substances.

Before starting the compressor and/or the aspirator, ascertain that piping is clean; heavy debris could damage the appliances. Read carefully the compressor rated data; verify feeding tension and frequency: a wrong feeding can damage the appliance, impair its functioning, and cause fires.

**Install a remote isolation, so that the operator is at safety range when switching on the machine.** When the compressor is connected to the mains and to the distribution line, push on the black button (1) to start it.



Starting of an aspirator will require also the input from the dental unit. In case of a three-phase appliance, check the direction of rotation marked on the motor and on the grid (10). Check that the ventilator (4) of the air/air exchanger is on.



## • Ordinary maintenance

As soon as the manometer (5) reads 8 bar\*, the compressor stops; it will start again at 6 bar. At every stop a slight whistling warns that the silica-gel is being regenerated.

Fans (6 and 7), installed on the same shaft, turn simultaneously with the motor. The hottest points of the compressor have temperature ranges from + 60 °C to + 100 °C. In one-, two-, three- cylinder compressors, in case of any anomaly, press the red knob on yellow background (11) placed on the door (9) - this door should be kept closed when the compressor is running - or the red button (2), - if the door had been left unintentionally open.

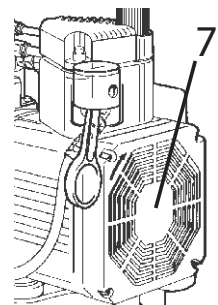
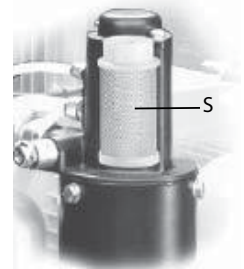
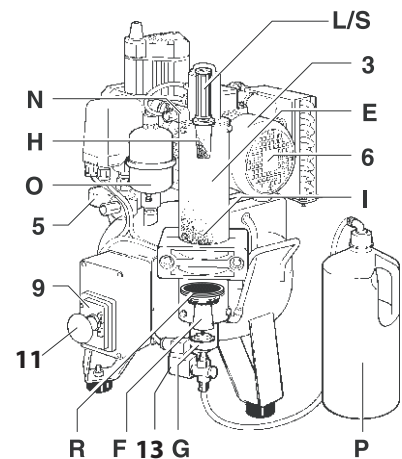
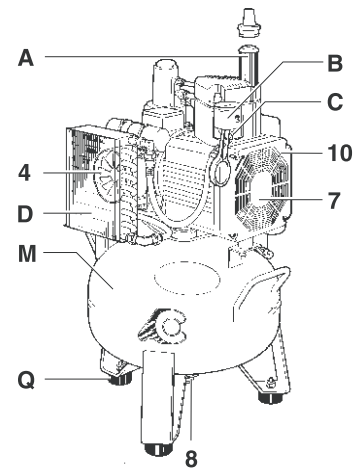
For tandem compressors or Blok-Jet, turn the red-on-yellow door-locking switch placed on the control panel. For special plants, clinics, hospitals and factories, customized manuals are issued.

### Ordinary maintenance

**To be entrusted to the surgery staff, purposely trained**

Before commencing maintenance or repairs on the compressor, disconnect it from the mains and ascertain that nobody can connect it again without the maintenance operator knowing it. If the compressor is installed in a dusty spot or where it can aspirate solid particles, as dust, sand, dry leaves or similar, the head filters should be cleaned and replaced very often. If it is installed in a clean room, it will be enough to clean the filters (A) every twelve months. We recommend to sterilize the filter (S) in autoclave at +135 °C at least every twelve months, for max 20 times. We recommend to wear disposable gloves and to put the filter immediately into the autoclave. Replacement cartridges are available; follow the directions given with the filter and mark the operation on the report sheet. Check the ventilator running every twelve months, as the compressor cannot work for long without adequate ventilation. Tap (8), placed under the air tank, must be opened at regular intervals: if moisture is noticed, call for an engineer. Note that the air-drying system cannot work properly with environment temperature above + 35 °C. The compressor should not start if no compressed air is used: differently, check for any leak in the system or in the compressed-air-using appliances. Charging time is about 45/55 sec., whilst time for the regeneration of the silica gel and for cooling is about one third of the charging one. Regular observation lengthens the life of the appliance: if excess noise, vibration or leaks are encountered, call for the engineer.

\* Excepted one-cylinder compressor running from 5.5 to 7.5 bar.



## • *Extraordinary maintenance*

Experience and the volume of the surgery work will give indications to every operator about increasing or decreasing the frequency of the mentioned operation in comparison with our advice.

**Always fill in the “Ordinary maintenance” report-sheet.**

### ***Extraordinary maintenance***

***To be entrusted to a trained and authorized engineer, provided with original spare parts.***

Checks must be regular; their frequency is related to the volume of the surgery work. A surgery working 8 hours a day, for five days a week, needs one check every six or twelve months, if appliances are watched also by the surgery staff charged with ordinary maintenance. The engineer charged with the extraordinary maintenance must use original spare parts only, must not modify the appliances or their functioning, and must not modify any safety device. In particular he must not carry out any welding on the compressor tank. Before any operation, consult the instruction manual, split-up drawings, and electrical diagrams. **Before approaching the compressor, disconnect it from the mains; if the main switch is far away and cannot be surveyed closely, lock it.** Ascertain that the compressor gets the set max. pressure at every charge. Charging time is about 45/55 sec. and the silica gel regeneration and cooling time is about one third of the charging one. If the compressor has difficulty in getting to the max set pressure, check the tension on the line and capacity of condenser. Check the electrical absorption. **At every stop of the compressor a dry-air-reversed-flow dries the silica gel; if it is not so, check or replace the electrovalve (13). If the compressor has difficulty in getting the working rate, check the tension on the line and capacity of condenser.**

**Every six months check the absorption with external ammeter.** Check for any leak on the appliance, on the line, and on the dental units. Check the aspiration value at every cylinder (from 6 to 8 bar): aspirated air must not be less than 6000 N l/h. Replace burnt bulbs in the control panel, replace flaming relays or remote switches and those with worn-out contacts. Do not modify the functioning or the electrical and mechanical protections.

Any change of the running noise can be a sign of malfunctioning and of a breakdown risk, therefore it is a good rule to replace noisy heads.

Check the engine room temperature: the air-drying system cannot work properly at temperatures above + 35 °C.

**Always fill in the “Extraordinary maintenance” report-sheet.**



- *Important notices*
- *Transport and storage*

### • *Important notices*

- The manufacturer is willing to supply spare parts, technical information and any other useful information.
- Distributors, agents, retailers, and Cattani S.p.A. area-service engineers are supplied with split-up drawings, electrical diagrams, handbooks and updating, as regards servicing and maintenance.
- The appliance is guaranteed for 3 years from date of sale, provided that guarantee card addressed to the manufacturer is returned to the same, reporting date of sale, retailer stamp and customer's name.
- Guarantee and manufacturer liability cease in case appliances and/or plants are found tampered by any kind of action performed by unable and thus unauthorised people.
- For any use not contemplated or specified in this handbook please refer to the manufacturer.
- Compressors can be disposed of as metal waste



- On the web-site: **www.cattani.it** you can find our **updated** manuals. We suggest to consult them especially concerning the **security**.

### • *Transport and storage*

- Packed equipment can be transported and stored at a temperature range of - 10 °C + 60 °C.
- Packages must be kept away from water and splashing and cannot tolerate humidity >70%.
- Packages with the same weight can be stored in piles of three only.
- The compressor is equipped with carrying handles for safe handling.
- All compressors, are packed on a wooden pallet, so that they can be handled with forklifts or transpallets as, except for the smaller models, all of them have to be handled with suitable equipment. For a safe handling (by hand or by means of a forklift) use only the carrying handles. The tandem models fitted with a 300 litres horizontal tank have to be handled with transpallet or forklift, using the guides welded under the tanks. As for the other tandem models that have no guides under the tanks, they can be handled using suitable forklifts or lifts and lifting straps fixed to the carrying handles.

## • Ordinary maintenance record

### **Compressed air distribution system**

**Record to be filled in at every ordinary maintenance operation.**

*The ordinary maintenance must be entrusted to the surgery staff purposely trained.*

Date of maintenance ..... Operator's signature .....			
	Before getting near the compressor cut the power off	YES	NO
OCCASIONALLY	Check the functioning of ventilators	YES	NO
	At every stop check if an air blow comes out from the drying column electrovalve	YES	NO
	Check the temperature in the technical room	YES	NO
	Check the noise level, contact the technician in case of increased noise level	YES	NO
	Keep the technical room clear of anything that is not related to the machines contained therein, taking special attention of flammable materials; make sure that there is no risk of formation of corrosive, flammable or explosive mixes	YES	NO
	At every maintenance operation: check there is no hindrance (dust or other) to the proper ventilation of the machines	YES	NO

Photocopy this record and keep it after filling in.

## • Extraordinary maintenance record

### **Compressed air distribution system**

**Record to be filled in at every extraordinary maintenance operation.**

*The extraordinary maintenance must be entrusted to a trained engineer, provided with original spare parts.*

Date of maintenance ..... Operator's signature .....			
	Before getting near the compressor, cut the power off	YES	NO
EVERY 12 MONTHS	Clean the filters on the head (in a clean air environment)*	YES	NO
	Verify the charging time (from 6 to 8 bar = 45/55 sec.) **	YES	NO
	Check the system and seek for any leak	YES	NO
	Sterilize the absolute filter by autoclave	YES	NO
	Replace the absolute filter on the column	YES	NO
AT EVERY CHECK-UP	Verify the sound and visual signals	YES	NO
	Verify the functioning of ventilators, make sure that there is no water inside the tank nor humidity in the unit	YES	NO
	Verify the functioning of drying system	YES	NO
	Verify the temperature of the technical room	YES	NO
	Check the noise	YES	NO
	Check the capacity of the capacitor	YES	NO

Photocopy this record and keep it after filling in.

\* In dusty environments clean and replace the filters more often, according to environmental conditions.

\*\* The time 45/55 seconds is measured at work stopped and at the maximum working pressure of 8 bar.



# - **GAMMA COMPRESSORI** - **COMPRESSOR RANGE**

## **MONOCILINDRICO**

### **ONE-CYLINDER COMPRESSOR**

Aria resa a 5 bar effettivi 67,5 N l/min.

Produced air with delivery pressure at 5 real bar 67,5 N l/min.

Serbatoio 24 litri.

Air tank 24 litres

L= 505 mm P= 550 mm

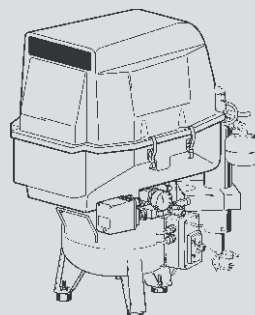
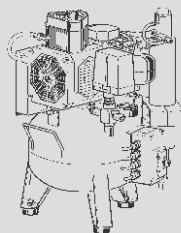
H= 735 mm

W= 505 mm D= 550 mm

H= 735 mm

Peso: 38,5 kg

Weight: 38,5 kg



L= 540 mm P= 630 mm

H= 860 mm

W= 540 mm D= 630 mm

H= 860 mm

Peso: 50 kg

Weight: 50 kg

## **BICILINDRICO 25L**

### **TWO-CYLINDER COMPRESSOR 25-litre tank**

Aria resa a 5 bar effettivi 160 N l/min.

Produced air with delivery pressure at 5 real bar 160 N l/min.

Serbatoio 24 litri.

Air tank 24 litres

L= 540 mm P= 530 mm

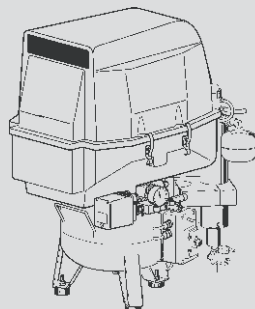
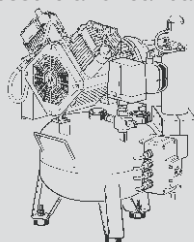
H= 730 mm

W= 540 mm D= 530 mm

H= 730 mm

Peso: 44 kg

Weight: 44 kg



L= 540 mm P= 630 mm

H= 860 mm

W= 540 mm D= 630 mm

H= 860 mm

Peso: 50 kg

Weight: 50 kg

## **BICILINDRICO 50L**

### **TWO-CYLINDER COMPRESSOR 50-litre tank**

Aria resa a 5 bar effettivi 160 N l/min.

Produced air with delivery pressure at 5 real bar 160 N l/min.

Serbatoio 45 litri

Air tank 45 litres

L= 560 mm P= 590 mm

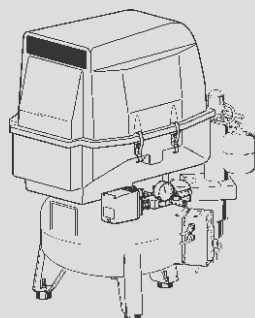
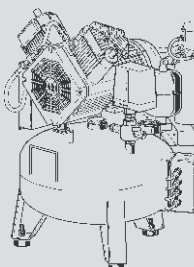
H= 760 mm

W= 560 mm D= 590 mm

H= 760 mm

Peso: 52 kg

Weight: 52 kg



L= 580 mm P= 630 mm

H= 930 mm

W= 580 mm D= 630 mm

H= 930 mm

Peso: 57 kg

Weight: 57 kg

## **TRICILINDRICO**

### **THREE-CYLINDER COMPRESSOR**

Aria resa a 5 bar effettivi 238 N l/min.

Produced air with delivery pressure at 5 real bar 238 N l/min.

Serbatoio 75 litri

Air tank 75 litres

L= 580 mm P= 600 mm

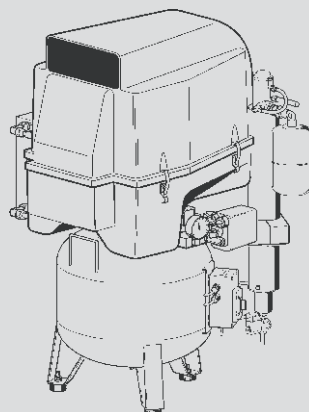
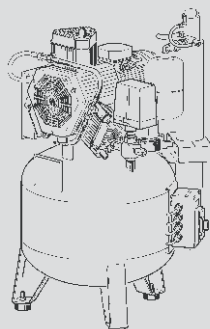
H= 940 mm

W= 580 mm D= 600 mm

H= 940 mm

Peso: 65 kg

Weight: 65 kg



L= 780 mm P= 740 mm

H= 1080 mm

W= 780 mm D= 740 mm

H= 1080 mm

Peso: 75 kg

Weight: 75 kg



- **GAMMA COMPRESSORI**
- **COMPRESSOR RANGE**

#### **BICILINDRICO TANDEM**

##### **TWIN-CYLINDER TWIN-HEAD COMPRESSOR**

Aria resa a 5 bar effettivi 320 N l/min.

Produced air with delivery pressure at 5 real bar  
320 N l/min.

Serbatoio 100 litri

Air tank 100 litres

L= 1155 mm P= 550 mm

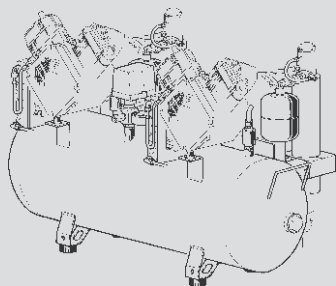
H= 745 mm

W= 1155 mm D= 550 mm

H= 745 mm

Peso: 112 kg

Weight: 112 kg

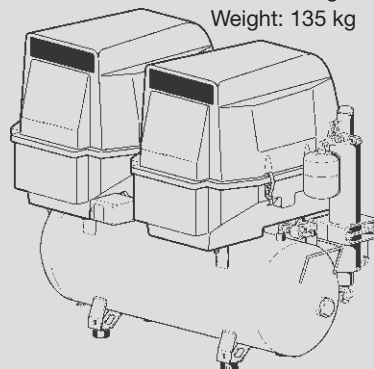


L= 1160 mm P= 650 mm H= 890 mm

W= 1160 mm D= 650 mm H= 890 mm

Peso: 135 kg

Weight: 135 kg



#### **TRICILINDRICO TANDEM**

##### **THREE-CYLINDER TWIN-HEAD COMPRESSOR**

Aria resa a 5 bar effettivi 476 N l/min.

Produced air with delivery pressure at 5 real bar  
476 N l/min.

Serbatoio 150 litri

Air tank 150 litres

L= 1320 mm P= 590 mm

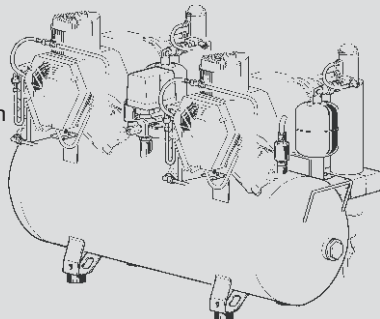
H= 890 mm

W= 1320 mm D= 590 mm

H= 890 mm

Peso: 137 kg

Weight: 137 kg

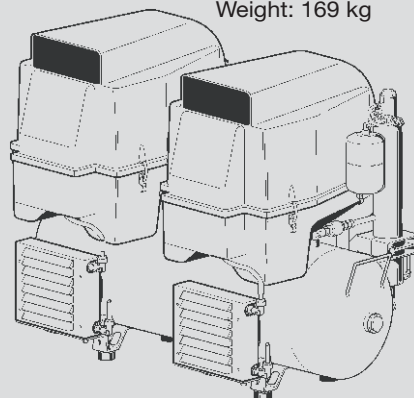


L= 1320 mm P= 770 mm H= 1040 mm

W= 1320 mm D= 770 mm H= 1040 mm

Peso: 169 kg

Weight: 169 kg



#### **3 GRUPPI TESTATA A TRE CILINDRI**

##### **3-CYLINDER 3-HEAD COMPRESSOR**

Aria resa a 5 bar effettivi 714 N l/min.

Produced air with delivery pressure at 5 real bar  
714 N l/min.

Serbatoio 300 litri

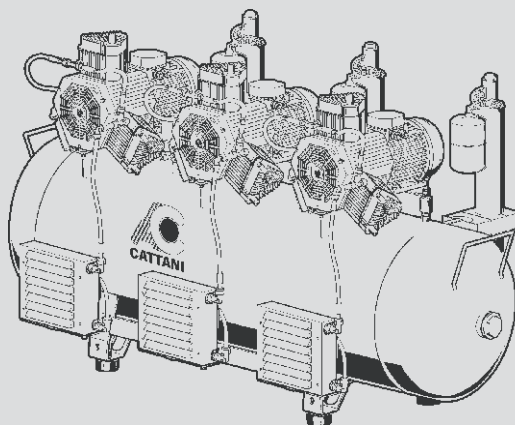
Air tank 300 litres

L= 1800 mm P= 810 mm H= 1000 mm

W= 1800 mm D= 810 mm H= 1000 mm

Peso: 260 kg

Weight: 260 kg



- **GAMMA COMPRESSORI**
- **COMPRESSOR RANGE**

### 2 GRUPPI TESTATA A 6 CILINDRI

#### 6-CYLINDER 2-HEAD COMPRESSOR

Aria resa a 5 bar effettivi 952 N l/min.

Produced air with delivery pressure at 5 real bar  
952 N l/min.

Serbatoio 300 litri

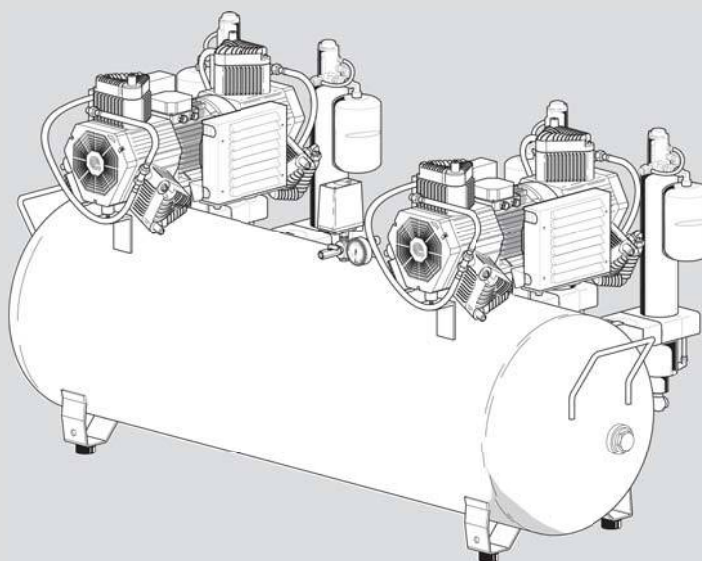
Air tank 300 litres

L= 1800 mm P= 880 mm H= 1100 mm

W= 1800 mm D= 880 mm H= 1100 mm

Peso: 303 kg

Weight: 303 kg



### 3 GRUPPI TESTATA A 6 CILINDRI

#### 6-CYLINDER 3-HEAD COMPRESSOR

Aria resa a 5 bar effettivi 1428 N l/min.

Produced air with delivery pressure at 5 real bar  
1428 N l/min.

Serbatoio 300 litri

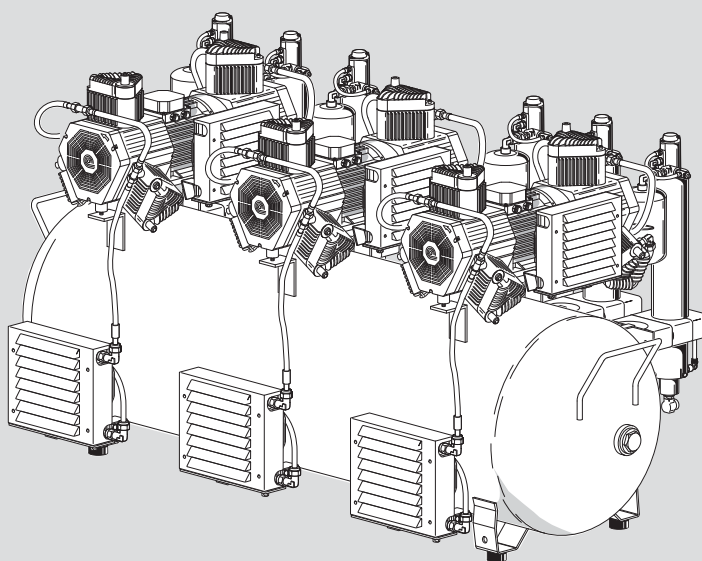
Air tank 300 litres

L= 1800 mm P= 1100 mm H= 1100 mm

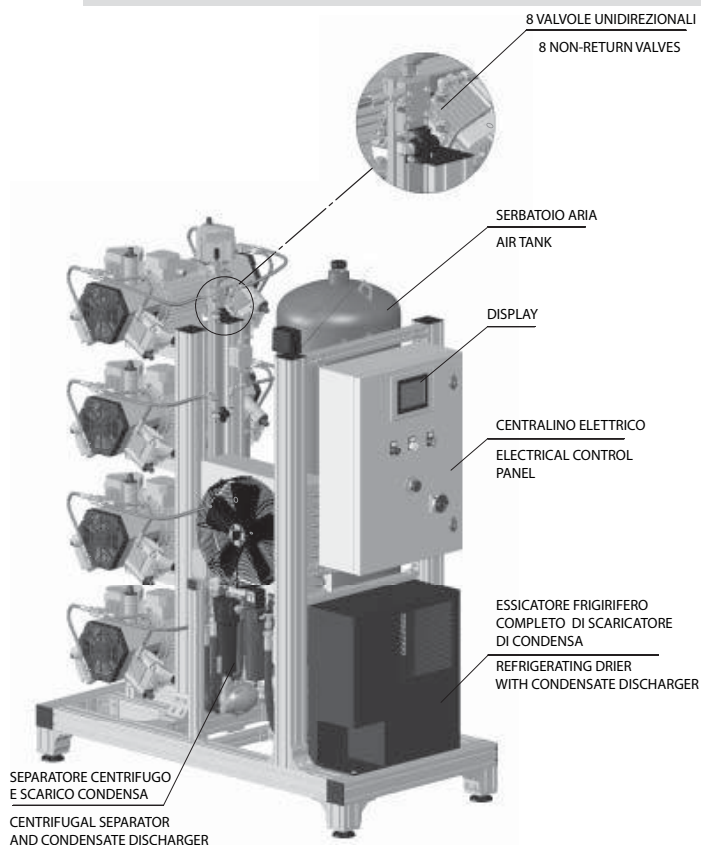
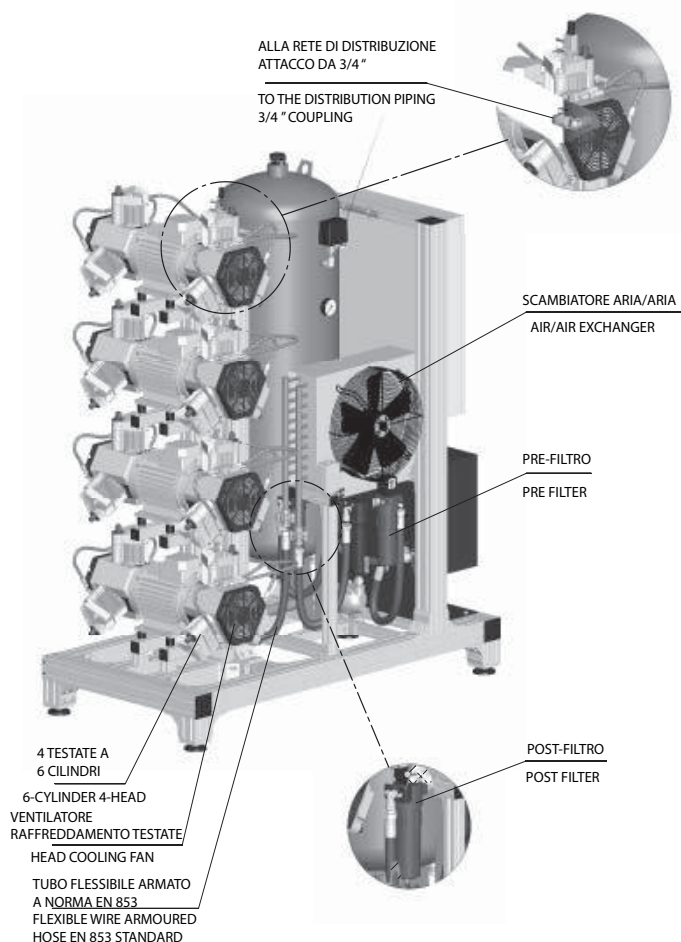
W= 1800 mm D= 1100 mm H= 1100 mm

Peso: 394 kg

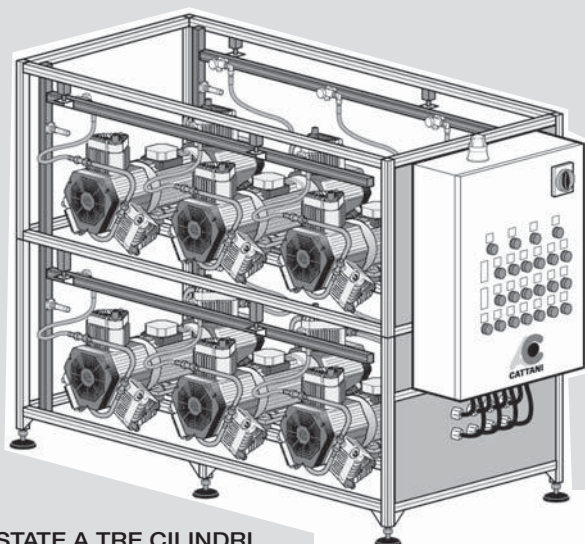
Weight: 394 kg



# • GAMMA COMPRESSORI • COMPRESSOR RANGE



- *ESEMPI DI BLOK JET*
- *BLOK JET EXAMPLES*



**BLOK-JET 6 TESTATE A TRE CILINDRI**

Aria resa a 5 bar effettivi 978 N l/min.

Produced air with delivery pressure at 5 real bar 978 N l/min.

Serbatoio 500 litri

Air tank 500 litres

**BLOK-JET 9 TESTATE A TRE CILINDRI**

Aria resa a 5 bar effettivi 1467 N l/min.

Produced air with delivery pressure at 5 real bar 1467 N l/min.

Serbatoio 725 litri

Air tank 725 litres

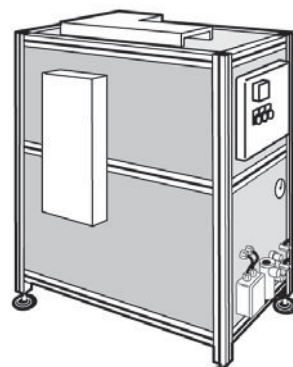
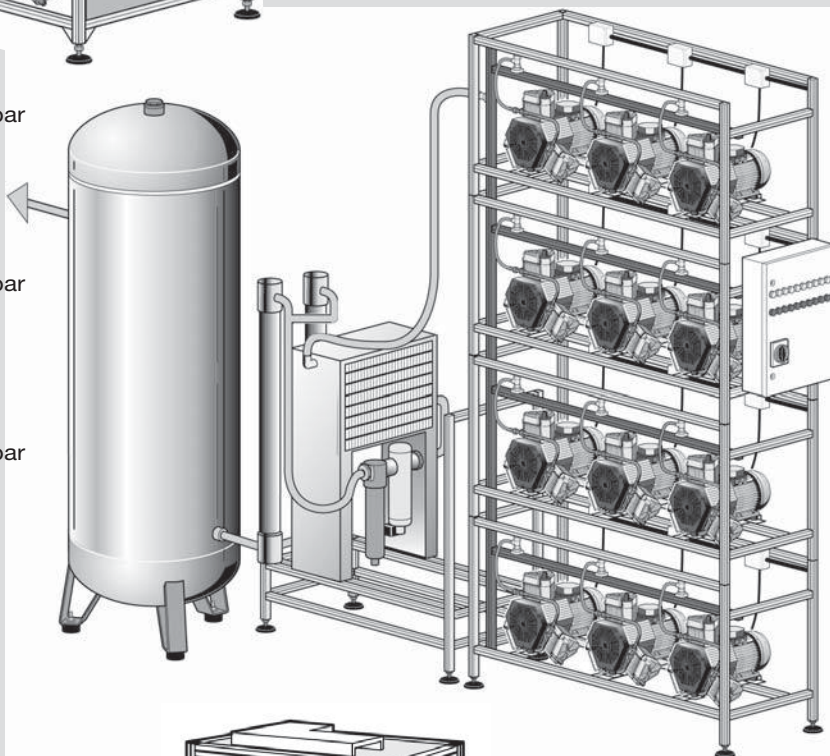
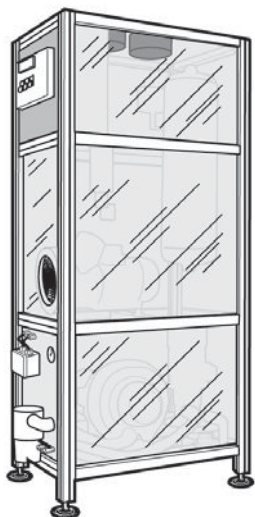
**BLOK-JET 12 TESTATE A TRE CILINDRI**

Aria resa a 5 bar effettivi 1956 N l/min.

Produced air with delivery pressure at 5 real bar 1956 N l/min.

Serbatoio 900 litri

Air tank 900 litres





- **LIVELLO DI PRESSIONE SONORA**
- **SOUND PRESSURE LEVEL - NIVEAU DE PRESSION DU BRUIT - SCHALLDRUCKPEGEL - NIVEL DE PRESIÓN SONORA**

Modello Type Modèle Modell Modelo	Aperto W/o noise-reducing protection Sans protection insonorisante Ohne Schalldämmung Gehäuse Abierto	Con protezione insonorizzante in plastica With plastic cover Avec capot insonorisant en plastique Mit Schalldämmung aus Plastik Con protección insonorizante en plástico	Con carenatura insonorizzante With deadening box Avec armoire insonorisante Mit Schalldämmung Gehäuse Con protección insonorizante carenada
	<b>dB (A)</b>	<b>dB (A)</b>	<b>dB (A)</b>
Monocilindrico - 1 cylinder compressor Monocylindrique - Monozylindrisch 1 cilindro	<b>70</b>	<b>63</b>	<b>51,5</b>
Bicilindrico - 2 cylinder compressor - Bicylindrique - Doppelzylindrisch 2 cilindros	<b>71</b>	<b>63</b>	<b>51,7</b>
Tricilindrico - 3 cylinder compressor - Tricylindrique - Trizylindrisch 3 cilindros	<b>73,6</b>	<b>68</b>	<b>51,85</b>
Tandem bicilindrico - 2 cylinder tandem compressor - Tandem bicylindre - Doppelzylindrisches Tandem - Tándem de dos cilindros	<b>73</b>	<b>63,8</b>	-
Tandem tricilindrico - 3 cylinder tandem compressor - Tandem tricylindre - Dreizylindrisches Tandem Tándem de tres cilindros	<b>74</b>	<b>70,4</b>	-
3 gruppi testata a tre cilindri * 3-cylinder 3 head - 3 têtes à 3 cylindres - 3 Köpfe 3 Zylindern - 3 grupos cabezas de 3 cilindros	<b>75</b>	-	-

Norma ISO 3746-1979 (E)

Parametri: r oppure d=1,5 - Rumore di fondo - 38 dB (A) - Strumento: Brüel & Kjær type 2232

ISO Regulation 3746-1979 (E)

Parameters: r or d=1,5 - Background noise - 38 dB (A) - Instrument: Brüel & Kjær type 2232

Règlement ISO-Norm 3746-1979 (E)

Paramètres: r ou d=1,5 - Bruit de fond - 38 dB (A) - Instrument: Brüel & Kjær type 2232

ISO-Norm 3746-1979 (E)

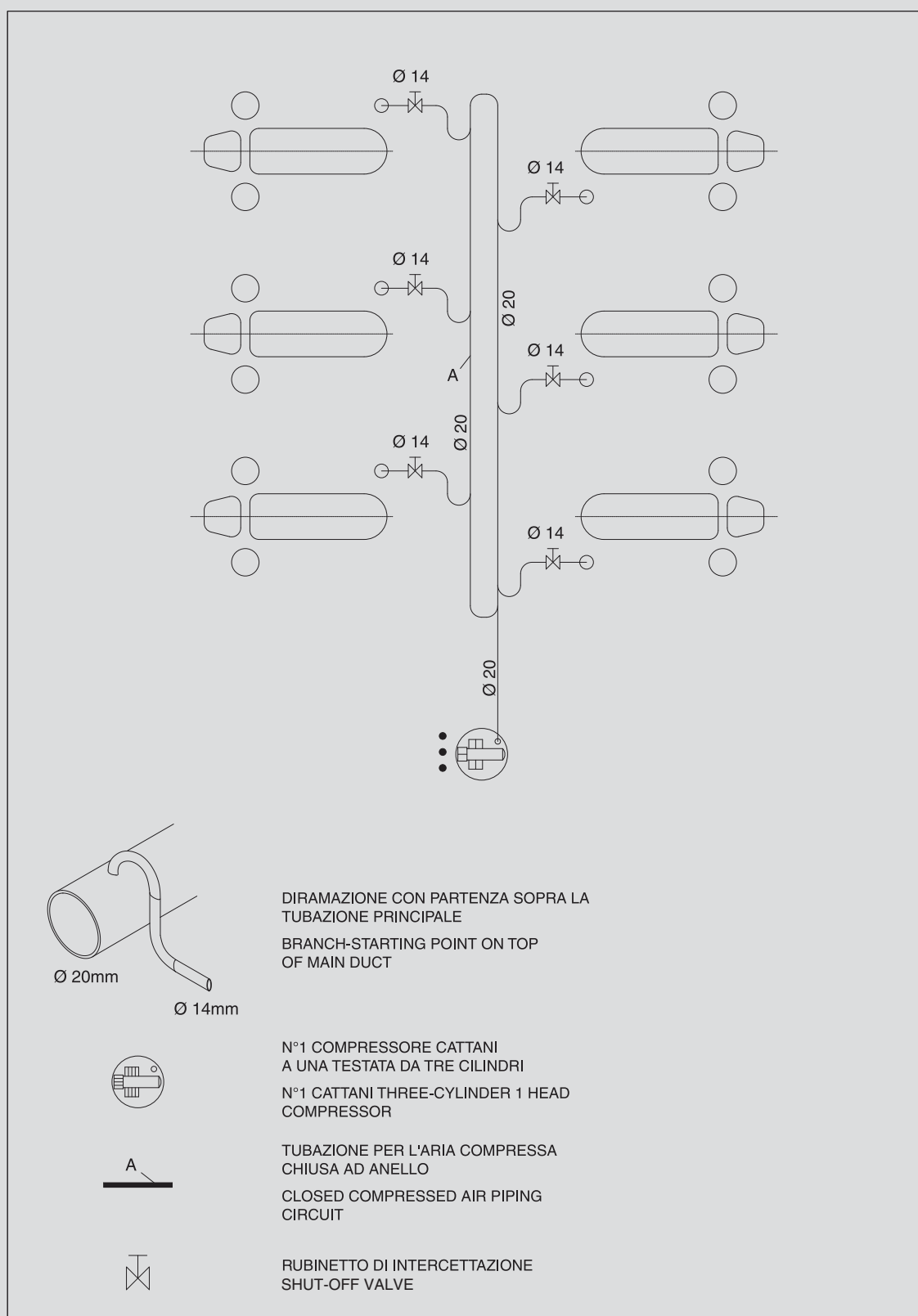
Parameter: r oder d=1,5 - Eigenrauschen - 38 dB (A) - Messgerät: Brüel & Kjær type 2232

Norma ISO 3746-1979 (E)

Parametros: r o d=1,5 - Ruido de fondo - 38 dB (A) - Instrumento: Brüel & Kjær type 2232

\* Rumore di fondo - 43 dB (A) - Background noise - 43 dB (A) - Bruit de fond - 43 dB (A)  
Eigenrauschen - 43 dB (A) - Ruido de fondo - 43 dB (A)

- *DISTRIBUZIONE AD ANELLO*
- *CLOSED CIRCUIT LAYOUT*



#### ITALIAN PATENTS OR PATENT APPLICATIONS:

**CATTANI:** 1201707 - 1234828 - 1259318 - 1.187.187 - 1253460 - 233634 - 2337706 - 1294904

**ESAM:** 1225173 - 1253783 - 0791751

#### FOREIGN PATENTS OR PATENT APPLICATIONS:

**CATTANI:** AU 546.143 - US 4,386,910 - US 4,787,846 - US 5,039,405 - US 5,002,486  
AU 580839 - US 4,684,345 - US 5,330,641 - AT 0040181 - CH 0040181 - DE 0040181  
FR 0040181 - GB 0040181 - LU 0040181 - SE 0040181 - CH 0211808 - DE 0211808  
FR 0211808 - GB 0211808 - SE 0211808 - DE 0335061 - ES 0335061 - FR 0335061  
GB 0335061 - AT 0557251 - DE 0557251 - ES 0557251 - FR 0557251 - GB 0557251  
DE 0638295 - DK 0638295 - ES 0638295 - FR 0638295 - GB 0638295 - NL 0638295  
SE 0638295 - US 6,083,306 - US 6,090,286 - US 6,022,216

**ESAM:** US 4,948,334 - DE 0351372 - ES 0351372 - FR 0351372 - GB 0351372  
EP 0791751 - US 5,779,443 - CH 0791751 - DE 0791751 - ES 0791751 - FR 0791751  
GB 0791751 - PT 0791751 - AU 93321 - ES 107358 - FR 222.394/395

#### PENDING PATENT

**CATTANI:** IT M098A000019 - IT M098A000119 - EP 99830010.7 - EP 99830011.5  
EP 99830250.9 - EP 00830491.7 - IT M099A000165 - US 09/624,182



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